

# RESEARCH and USES

Analysis, Public and Legal Affairs

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## COMPARATIVE STUDIES

### HIGHLIGHTS

- Québec obtained 32% of the CIHR's cumulative funding for graduate scholarship awards and fellowships between 2000-2001 and 2006-2007.
- Québec ranked second after Ontario (with 41% of funding) and far ahead of British Columbia (11%) and Alberta (10%).
- Québec and Ontario were the only provinces whose share of awards was greater than their demographic weight and share of students.
- Only British Columbia enjoyed an increase in its share of funding, which went from 8% in 2000-2001 to 14% in 2006-2007, nearly doubling.
- In the last five years of the period studied, British Columbia outpaced Alberta and the gap between the two provinces continued to widen.

### Trends in the distribution of funding under CIHR graduate scholarship awards and fellowships, by province, from 2000-2001 to 2006-2007

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Within the Canadian federation, Québec is renowned for the excellence of its research centres, groups and networks and for the competitiveness of their researchers in the health field. Québec researchers and students are usually considered to score excellent results at federal granting agency competitions. This study is a follow-up to a first study entitled *Trends in the distribution of CIHR graduate scholarship awards and fellowships, by province from 2000-2001 to 2006-2007*. The purpose of the present study is to measure Québec's share of CIHR graduate and fellowship programs funding for the period from 2001-2001 to 2006-2007, based on the awards in effect for each year (new awards and commitments expensed). These two descriptive studies make it possible to: 1) produce a portrait of Québec's performance over time and 2) compare this performance to that of the three other Canadian provinces most active in health research (Ontario, British Columbia and Alberta).



## MAIN RESULTS

**Overall, for all the graduate scholarship programs and fellowship programs between 2000-2001 and 2006-2007:**

- Québec obtained 32% of CIHR funding.
- It was number two in rank, behind Ontario (41% of funding), and far ahead of British Columbia (11%) and Alberta (10%).
- Québec's performance in terms of funding exceeded its demographic weight (24%) and its share of Canadian graduate students in the health sciences (30%).
- Québec and Ontario were the only provinces whose funding was greater than their demographic weight and their share of students.
- These results are similar, if not identical, to those concerning awards.

**When funding trends over time are taken into account, we find that:**

- Québec's share of funding remained stable around the 32% mark.
- Ontario's share dropped from 44% to 38%, and Alberta's, from 11% to 9%.
- Only British Columbia posted an increase in its share of funding, which went from 8% in 2000-2001 to 14% in 2006-2007, nearly doubling. In the last five years of the period studied, British Columbia outpaced Alberta and the gap between the two provinces continued to widen.
- British Columbia clearly caught up in relation to its demographic weight and continued to gain ground. Its performance was especially remarkable considering that its share of graduate students in the field of health sciences was a mere 7% in 2003-2004 (Note 2).
- These results differed slightly from those concerning awards. In the case of Québec, the decrease in the number of awards (-3 points) was not reflected in its share of funding, possibly because its share of M.D. – Ph. D. awards and fellowships increased during the period studied, which would have made up for the decrease in doctoral awards.
- Alongside this, the spectacular rise in the share of British Columbia's awards (+6.7 points) was not mirrored in its funding (+5.4 points). This is likely due to the fact that fellowship awards increased by less than 2%, which had an adverse impact on overall funding amounts given the weight of fellowships and the amounts granted to fellows.

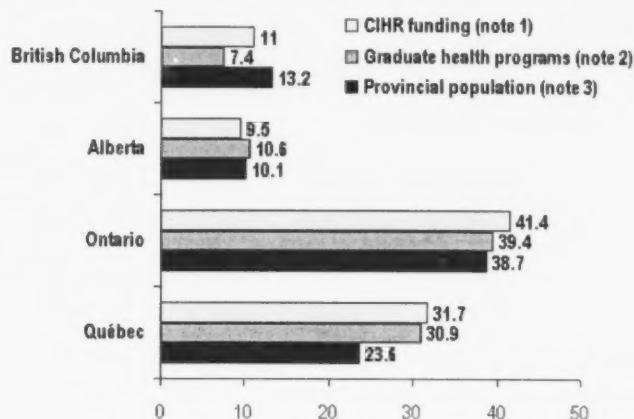
**Québec's performance for each of the programs:**

- At the Master's level, Québec's share of funding held steady at roughly 29%. Ontario (+5 points) and British Columbia (+2 points) increased their share, whereas Alberta's share of funding decreased by 3 points.
- At the doctoral level, Québec's share of funding decreased from 43% in 2000-2001 to 37% in 2006-2007. Despite this downturn, Québec continued to obtain an appreciable share of this program's funding, the only one in which its share exceeded that of Ontario. Only British Columbia enjoyed an increase in its share of funding, which leaped from 6% to 18% during the period studied.
- At the M.D. – Ph. D. level, Québec's share increased from 20% to 24%, as did its share of fellowship funding (from 25% to 30%). In both these programs, Ontario continued with its lion's share of funding (43%), despite a downswing.
- Lastly, as for other programs, Québec and Ontario both experienced a decrease in their respective share of funding (35% to 28-29%). Of the provinces studied, only British Columbia posted a gain (from 10% to 21%, spiking at 35% in 2004-2005 and 2005-2006).

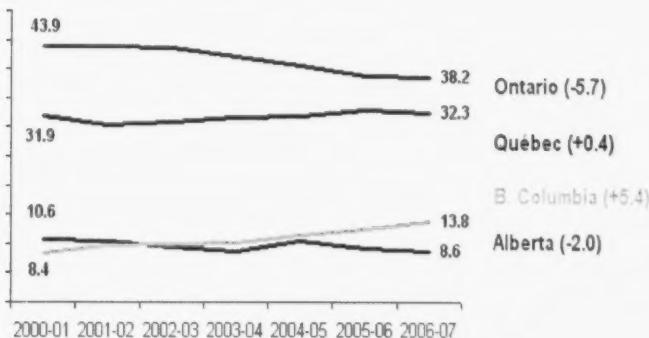
**Table 1 – Distribution of funding (cumulative) for all CIHR graduate scholarship awards and fellowships (2000-2001 to 2006-2007)**

Province	Master's (\$M)	Doctorate (\$M)	M.D.– Ph. D. (\$M)	Fellows (\$M)	Other (\$M)	Total (\$M)	%
Québec	1508	28,906	1 549	32,612	5633	70 208	31.7
Ontario	1947	26,242	3 148	54,297	5923	91 557	41.4
Alberta	627	5193	1 266	11,768	2240	21 094	9.5
British Columbia	610	8765	875	11,398	2749	24 397	11
Other	462	3759	266	8481	1202	14 170	6.4
<b>Total Canada</b>	<b>5154</b>	<b>72,865</b>	<b>7 104</b>	<b>1762</b>	<b>603</b>	<b>221 426</b>	<b>100</b>

**Figure 1 - Comparison between funding and populations**



**Figure 2 – Distribution of funding (all programs)**



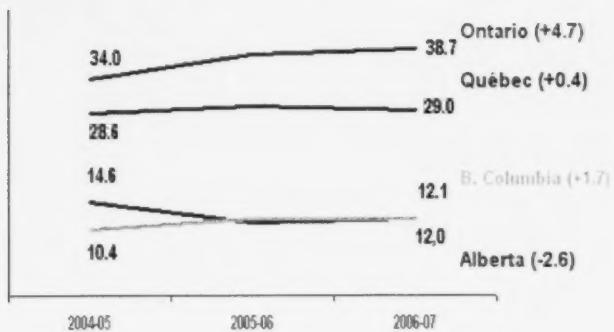
### Overall distribution of funding

For the period from 2000-2001 to 2006-2007, CIHR awarded more than \$221.4 million in awards and fellowships, over \$70.2 million of which went to graduate students and postdoctoral fellows from Québec, for 31.7% of the total (Table 1). This performance exceeded Québec's demographic weight in Canada, which was a little less than 24% at the time.

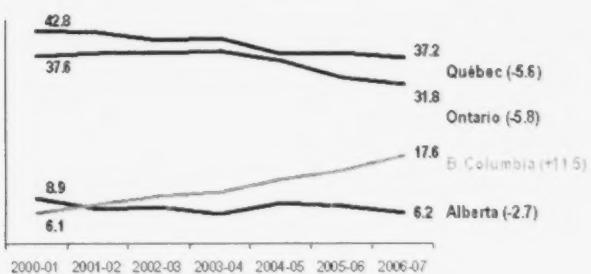
However, Québec's share of CIHR graduate award and fellowship programs funding was in line with its share of graduate students in the field of health sciences (30.4% of Canada's share as a whole - Figure 1).

For award and fellowship programs as a whole, Québec maintained and slightly increased its share of funding, from 31.9% to 32.3 %, up 0.4 points in the period from 2000-2001 to 2006-2007 (Figure 2). Ontario's share lost 5.7 points, going from 43.9% to 38.2%, while that of Alberta decreased from 10.6% to 8.6%, a two-point drop. British Columbia saw its share increase from 8.4% to 13.8%, a gain of 5.4 points.

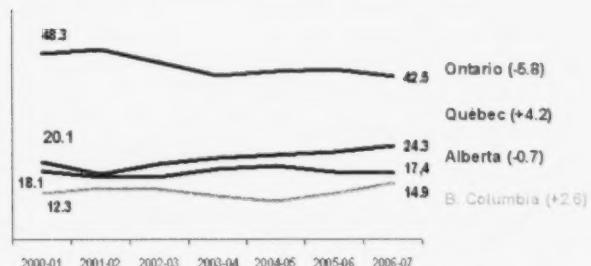
**Figure 3 – Distribution of funding (Master's)**



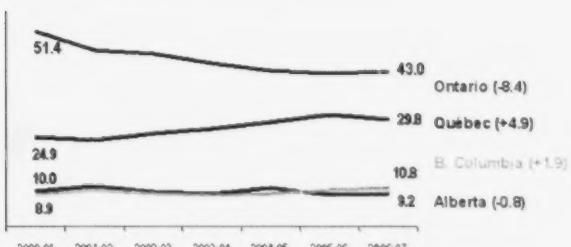
**Figure 4 - Distribution of funding (Doctorate)**



**Figure 5 – Distribution of funding (M.D. – Ph. D.)**



**Figure 6 – Distribution of funding (fellowships)**



### Trends in the distribution of funding by program

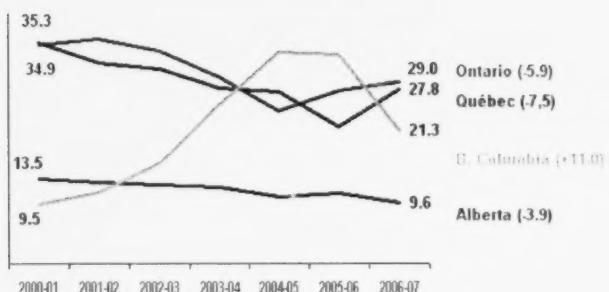
At the Master's level, Québec held steady in terms of funding, with a slight increase (28.6% to 29%, or +0.4 points – Figure 3). Ontario's share went from 34.0% to 38.7% (up by 4.7 points), and British Columbia's, from 10.4% to 12.1% (up by 1.7 points). Alberta's share went from 14.6% to 12% (down by 2.6 points).

In terms of Doctorates, Québec's share of funding dropped by 5.6 points, from 42.8% to 37.2% (Figure 4). Ontario and Alberta also experienced decreases, the former from 37.6% to 31.8% (down by 5.8 points), and the latter, from 8.9% to 6.2% (down by 2.7 points). British Columbia, the only province to post an increase in funding, saw its share rise from 6.1% to 17.6% (up by 11.5 points).

In M.D. – Ph. D. programs, Québec's share of funding increased from 20.1% to 24.3%, a 4.2 point gain (Figure 5). Alberta's share dipped slightly, from 18.1% to 17.4%, down by 0.7 points. British Columbia's share increased from 12.3% to 14.9%, up by 2.6 points). Only Ontario experienced a marked decrease in its share of funding, from 48.3% to 42.5%, down 5.8 points.

At the fellowships level, Québec saw its share of funding increase from 24.9% to 29.8% for a 4.9 point gain (Figure 6). Ontario's share decreased from 51.4% to 43%, an 8.4 point drop. Alberta and British Columbia exhibited opposite trends in terms of shares, with that of Alberta decreasing from 10% to 9.2% (down by 0.8 points), and that of British Columbia increasing from 8.9% to 10.8% (up by 1.9 points).

**Figure 7 – Distribution of funding (other programs)**



As for the other programs, Québec's share went from 35.3% to 27.8%, for a loss of 7.5 points (Figure 7). That of Ontario also decreased, from 34.9% to 29%, a 5.9 point loss, as did that of Alberta (from 13.5% to 9.6, down by 3.9 points). British Columbia posted hefty gains, from 9.5% to 21.3% (up by 11.8 points), spiking above 33% in 2004-2005 and 2005-2006.

### Methodological notes

The data used for this study were taken from the Canadian Institutes of Health Research (CIHR) Web site and extracted in February 2007. These annual data cover the total amounts awarded, by program and province. They are closely related to the awards in effect for each year (new awards and commitments expensed), without duplication.

The use of data about awards contains certain limits that must be taken into account for analysis purposes, for example, with regard to the duration of studies, periods of inactivity or withdrawals from programs. Therefore, differences in behaviour regarding these factors between cohorts from different provinces cannot be identified, nor can differences between annual cohorts from the same province. Data can be compared insofar as the behaviour of different cohorts is similar between provincial cohorts and between the annual cohorts within the same province. The validity of this assumption is strengthened by the fact that the cohorts are composed of the best applicants from each province, which increases the probability that the different cohorts would exhibit similar behaviour.

#### Note 1

Canadian Institutes of Health Research (CIHR). Distribution of awards (cumulative) for all CIHR graduate scholarship programs and fellowship programs (2000-2001 to 2006-2007).

#### Note 2

The data on doctoral students in the health field were provided by the Ministère du Développement économique, de l'Innovation et de l'Exportation. They comprise data for 2003-2004 for full-time students in the following university programs: 1) health- and clinical science-related professions; 2) residency programs in medicine, dentistry, and veterinary medicine (even though veterinary medicine cannot be excluded from the category of residency programs, it accounts for a very small proportion thereof); 3) psychology; and 4) biological and biomedical sciences.

#### Note 3

Statistics Canada. Provincial populations and Canadian population, 2006 data.

**Appendix A – Data on funding**

<b>CIHR – Master's award programs</b>					
	Provinces	Total amount (in \$)	Percentage	Awards	Average amount (in \$)
<b>2004-2005</b>					
Québec	217,192	28.6	22	9872	
Ontario	258,121	34.0	26	9928	
Alberta	110,834	14.6	10	11,083	
British Columbia	78,749	10.4	8	9844	
Other	93,331	12.3	9	10,370	
<b>2005-2006</b>					
Québec	533,019	29.8	56	9518	
Ontario	679,483	38.0	72	9437	
Alberta	204,412	11.4	24	8517	
British Columbia	216,123	12.1	23	9397	
Other	153,126	8.6	17	9007	
<b>2006-2007</b>					
Québec	757,594	29.0	87	8708	
Ontario	1,009,888	38.7	110	9181	
Alberta	312,122	12.0	35	8918	
British Columbia	315,263	12.1	34	9272	
Other	215,100	8.2	25	8604	
<b>TOTAL FOR THE 2004-2005 TO 2006-2007 PERIOD</b>					
Québec	1,507,805	29.3	111	13,584	
Ontario	1,947,492	37.8	136	14,320	
Alberta	627,368	12.2	45	13,942	
British Columbia	610,135	11.8	43	14,189	
Other	461,557	9.0	34	13,575	

<b>CIHR – Doctoral award programs</b>					
	Provinces	Total amount (in \$)	Percentage	Awards	Average amount (in \$)
<b>2000-2001</b>					
Québec	2,818,374	42.8	177	15,923	
Ontario	2,475,414	37.6	162	15,280	
Alberta	584,319	8.9	34	17,186	
British Columbia	402,910	6.1	26	15,497	
Other	308,221	4.7	18	17,123	
<b>2001-2002</b>					
Québec	3,651,430	42.3	241	15,151	
Ontario	3,309,999	38.3	226	14,646	
Alberta	589,509	6.8	38	15,513	
British Columbia	671,530	7.8	44	15,262	

Other	411,783	4.8	28	14,707
<b>2002-2003</b>				
Québec	3,979,936	40.9	273	14,579
Ontario	3,729,231	38.3	251	14,857
Alberta	708,265	7.3	45	15,739
British Columbia	932,842	9.6	61	15,292
Other	390,619	4.0	29	13,470
<b>2003-2004</b>				
Québec	4,348,137	41.2	262	16,596
Ontario	4,083,834	38.7	246	16,601
Alberta	616,804	5.8	38	16,232
British Columbia	1,079,935	10.2	66	16,363
Other	429,388	4.0	31	13,851
<b>2004-2005</b>				
Québec	4,311,886	38.0	243	17,744
Ontario	4,177,624	36.8	245	17,052
Alberta	907,065	8.0	47	19,299
British Columbia	1,475,859	13.0	82	17,998
Other	473,052	4.2	32	14,783
<b>2005-2006</b>				
Québec	4,760,048	38.3	237	20,085
Ontario	4,156,916	33.4	234	17,765
Alberta	944,319	7.6	49	19,272
British Columbia	1,812,359	14.6	99	18,307
Other	769,245	6.2	49	15,699
<b>2006-2007</b>				
Québec	5,035,786	37.2	229	21,990
Ontario	4,309,191	31.8	228	18,900
Alberta	842,688	6.2	43	19,597
British Columbia	2,389,273	17.6	123	19,425
Other	976,494	7.2	56	17,437
<b>TOTAL FOR THE 2000-2001 TO 2006-2007 PERIOD</b>				
Québec	28,905,597	39.7	621	46,547
Ontario	26,242,209	36.0	596	44,031
Alberta	5,192,969	7.1	119	43,638
British Columbia	8,764,708	12.0	203	43,176
Other	3,758,802	5.2	97	38,751

#### CIHR - M.D. – Ph. D. award programs

	Provinces	Total amount (in \$)	Percentage	Awards	Average amount (in \$)
<b>2000-2001</b>					
Québec	58,693	20.1	4	14,673	

Ontario	141,032	48.3	14	10,074
Alberta	52,747	18.1	4	13,187
British Columbia	35,888	12.3	2	17,944
Other	3867	1.3	1	3,867
<b>2001-2002</b>				
Québec	85,464	17.1	6	14,244
Ontario	247,373	49.5	25	9895
Alberta	81,792	16.4	5	16,358
British Columbia	67,019	13.4	4	16,755
Other	18,111	3.6	2	9056
<b>2002-2003</b>				
Québec	165,001	19.5	11	15,000
Ontario	390,899	46.1	29	13,479
Alberta	140,086	16.5	10	14,009
British Columbia	111,942	13.2	7	15,992
Other	39,500	4.7	3	13,167
<b>2003-2004</b>				
Québec	228,167	21.2	14	16,298
Ontario	461,104	42.8	29	15,900
Alberta	198,584	18.4	12	16,549
British Columbia	121,834	11.3	8	15,229
Other	67,749	6.3	5	13,550
<b>2004-2005</b>				
Québec	326,250	22.2	19	17,171
Ontario	640,000	43.5	34	18,824
Alberta	280,168	19.1	18	15,565
British Columbia	147,250	10.0	9	16,361
Other	76,833	5.2	5	15,367
<b>2005-2006</b>				
Québec	359,334	22.8	20	17,967
Ontario	696,250	44.3	34	20,478
Alberta	278,305	17.7	18	15,461
British Columbia	191,000	12.1	10	19,100
Other	47,750	3.0	4	11,938
<b>2006-2007</b>				
Québec	326,500	24.3	17	19,206
Ontario	571,750	42.5	30	19,058
Alberta	234,083	17.4	17	13,770
British Columbia	199,750	14.9	11	18,159
Other	11,750	0.9	1	11,750
<b>TOTAL FOR THE 2000-2001 TO 2006-2007 PERIOD</b>				
Québec	1,549,409	21.8	21	73,781
Ontario	3,148,408	44.3	48	65,592
Alberta	1,265,765	17.8	21	60,275
British Columbia	874,683	12.3	13	67,283

Other	265,560	3.7	5	53,112
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### CIHR – Fellowship programs

	Provinces	Total amount (in \$)	Percentage	Awards	Average amount (in \$)
<b>2000-2001</b>					
Québec	3,134,987	24.9	136	23,051	
Ontario	6,483,238	51.4	240	27,013	
Alberta	1,264,783	10.0	61	20,734	
British Columbia	1,127,055	8.9	45	25,046	
Other	605 605	4.8	34	17,812	
<b>2001-2002</b>					
Québec	3,836,830	23.9	145	26,461	
Ontario	7,871,558	49.0	291	27,050	
Alberta	1,822,926	11.3	71	25,675	
British Columbia	1,648,598	10.3	65	25,363	
Other	899,686	5.6	41	21,944	
<b>2002-2003</b>					
Québec	4,726,337	26.0	172	27,479	
Ontario	8,695,092	47.8	302	28,792	
Alberta	1,761,108	9.7	70	25,159	
British Columbia	1,650,261	9.1	56	29,469	
Other	1,358,987	7.5	52	26,134	
<b>2003-2004</b>					
Québec	4,863,657	27.1	172	28,277	
Ontario	8,138,751	45.4	281	28,964	
Alberta	1,692,205	9.4	67	25,257	
British Columbia	1,530,071	8.5	59	25,933	
Other	1,702,651	9.5	64	26,604	
<b>2004-2005</b>					
Québec	5,200,571	28.9	164	31,711	
Ontario	7,825,855	43.5	252	31,055	
Alberta	1,980,528	11.0	64	30,946	
British Columbia	1,665,463	9.3	48	34,697	
Other	1,302,522	7.2	53	24,576	
<b>2005-2006</b>					
Québec	5,537,670	30.8	169	32,767	
Ontario	7,629,426	42.5	243	31,397	
Alberta	1,610,968	9.0	53	30,396	
British Columbia	1,851,963	10.3	63	29,396	
Other	1,327,668	7.4	58	22,891	
<b>2006-2007</b>					
Québec	5,312,373	29.8	160	33,202	
Ontario	7,652,878	43.0	247	30,983	
Alberta	1,635,702	9.2	55	29,740	

British Columbia	1,924,250	10.8	61	31,545
Other	1,284,278	7.2	50	25,686
<b>TOTAL FOR THE 2000-2001 TO 2006-2007 PERIOD</b>				
Québec	32,612,425	27.5	466	69,984
Ontario	54,296,798	45.8	779	69,701
Alberta	11,768,220	9.9	197	59,737
British Columbia	11,397,661	9.6	165	69,077
Other	8,481,397	7.2	155	54,719

CIHR – Other programs					
	Provinces	Total amount (in \$)	Percentage	Awards	Average amount (in \$)
<b>2000-2001</b>					
Québec		2,155,578	35.3	145	14,866
Ontario		2,131,667	34.9	147	14,501
Alberta		823,082	13.5	50	16,462
British Columbia		582,558	9.5	41	14,209
Other		414,450	6.8	34	12,190
<b>2001-2002</b>					
Québec		1,467,639	32.0	114	12,874
Ontario		1,646,808	35.9	113	14,574
Alberta		594,149	13.0	42	14,146
British Columbia		521,325	11.4	35	14,895
Other		356,291	7.8	27	13,196
<b>2002-2003</b>					
Québec		894,799	31.1	74	12,092
Ontario		982,783	34.1	81	12,133
Alberta		358,836	12.5	29	12,374
British Columbia		461,501	16.0	35	13,186
Other		180,276	6.3	20	9014
<b>2003-2004</b>					
Québec		442,941	28.0	47	9424
Ontario		471,175	29.8	47	10,025
Alberta		191,249	12.1	22	8693
British Columbia		403,383	25.5	29	13,910
Other		73,108	4.6	8	9139
<b>2004-2005</b>					
Québec		299,603	27.4	29	10,331
Ontario		265,933	24.3	29	9170
Alberta		116,354	10.6	16	7272
British Columbia		370,094	33.8	30	12,336
Other		42,121	3.9	6	7020
<b>2005-2006</b>					

Québec	164,658	21.8	21	7841
Ontario	209,178	27.7	23	9095
Alberta	84,595	11.2	12	7050
British Columbia	251,696	33.4	23	10,943
Other	44,275	5.9	4	11,069
<b>2006-2007</b>				
Québec	207,462	27.8	19	10,919
Ontario	215,811	29.0	29	7442
Alberta	71,366	9.6	10	7137
British Columbia	158,740	21.3	15	10,583
Other	91,958	12.3	11	8360
<b>TOTAL FOR THE 2000-2001 TO 2006-2007 PERIOD</b>				
Québec	5,632,680	31.7	196	28,738
Ontario	5,923,355	33.4	201	29,469
Alberta	2,239,631	12.6	76	29,469
British Columbia	2,749,297	15.5	77	35,705
Other	1,202,479	6.8	53	22,688

